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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/888,321

06/21/2001

Agha B. Hussain

IDT-1624

7215

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12/23/2004

BEVER, HOFFMAN & HARMS, LLP  
1432 CONCANNON BLVD  
BUILDING G  
LIVERMORE, CA 94550-6006

EXAMINER

SORRELL, ERON J

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/888,321

Applicant(s)

HUSSAIN ET AL.

Examiner

Eron J Sorrell

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 and 24-36 is/are allowed.
- 6) ☒ Claim(s) 15, 16 and 23 is/are rejected.
- 7) ☒ Claim(s) 17-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15, 16, and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over The Ganssle Group article "DMA" (hereinafter "The DMA article" in view of Fujiyama (U.S. Patent No. 6,009,493, and further in view of Earnest (U.S. Patent No. 6,226,388)).

3. Referring to claim 15, The DMA article teaches a method of performing a fly-by read operation, the method comprising the steps of:

reading data words from a memory device in a slave peripheral, wherein each of the data words includes N bytes (see paragraph bridging pages 1 and 2);

incrementing a read pointer of the memory device each time a data word is read from the memory device (see first and second full paragraphs of page 4);

The DMA article fails to teach the limitation of aligning the data words read from the memory device to a system bus and adjusting the read pointer at the end of the fly-by read operation, however the DMA article does teach the source address pointer (read pointer) is incremented on each transfer.

Fujiyama teaches a method of performing DMA comprising the limitation of aligning the data words read from the memory device to the system bus (see lines 51-57 of column 7).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method of the DMA article with the teachings of Fujiyama. One of ordinary skill in the art at the time of the applicant's invention would have been motivated to make such modification in order to ensure proper alignment of the data on a byte unit basis as suggested by Fujiyama (see lines 51-57 of column 7).

Earnest teaches a DMA method positively reciting the limitation of incrementing a read pointer at the end of the DMA read operation (see lines of 35-58 of column 6).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the

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combination of The DMA article and Fujiyama with the above teachings of Earnest. One of ordinary skill in the art would have been motivated to make such modification in order to have the read pointer in the proper position to begin the next read cycle as suggested by Earnest (see lines 35-58 of column 6).

4. Referring to claim 16, the DMA article teaches providing byte enable signals on the system bus using a direct memory access (DMA) controller, the byte enable signals corresponding with bytes of the data words being transferred (see fourth full paragraph of page 2).

5. Referring to claim 23, the DMA article teaches operating the memory device in a first in, first out (FIFO) manner (see first full paragraph of page 4).

***Allowable Subject Matter***

6. Claims 1-14 and 24-36 allowed.

7. Claims 17-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments with respect to claim 15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J Sorrell whose telephone number is 571 272-4160. The examiner can normally be reached on Monday-Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on 571 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EJS

December 17, 2004

  
JEFFREY GAFFIN  
SUPERVISOR, PATENT EXAMINER  
TECHNOLOGY CENTER 2100